Iranian Miracle: How to Raise Contraceptive Prevalence Rate to above 70% and Cut TFR by Two-thirds in less than a Decade?

By

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Abstract

The Islamic Republic of Iran pursued a frankly pronatalist policy during the first decade of her life. The result was a tremendous rise in fertility and the population rose at an annual rate of 3.9 percent between 1976-1986. Partly in response to this rapid growth, the government adopted an anti-natalist policy and the long suspended national family planning program was revived in 1989. The program has proven exceptionally successful both in terms of contraceptive prevalence rate and a sharp decline in fertility.

The aim of this paper is to describe the development, organization, and achievements of Iranian family planning program and to identify some of the main factors that may have contributed to its remarkable success. To this end, the main findings of all censuses and surveys conducted by the Statistical Centre of Iran (SCI) and the Ministry of Health and Medical Education (MOHME) between 1976-2000 are reviewed.

The findings indicate a tremendous rise in contraceptive prevalence rate as well as a striking decline in fertility and population growth rates since late 1980s. Over 70% of eligible are found to be using a contraceptive. The traditional urban-rural gap has narrowed considerably. Although the large majority of couples are using modern methods, including male and female sterilization, a large proportion continue to rely on coitus interruptus. The use of the latter method is surprisingly more common in urban areas of the better-developed provinces with remarkable rates of fertility decline. By late 2000, 23 of the 29 provinces had CPRs above 70%. Even the two provinces with the lowest CPR level (Sistan-Baluchistan and Hormozgan provinces bordering Pakistan and the Persian Gulf) have higher contraceptive use rates (41.5 & 55%) than most neighboring countries. The fertility rate, which had declined from a TFR of to a TFR of 2.6 between 1986-1996, has continued to fall further. According to large-scale

surveys conducted by the SCI (1998-9) and MOHME (2000) the TFR has dropped to below 2 in urban areas of the majority of provinces as well as the rural areas of several provinces.

Government commitment, whole hearted support of the politically dominant religious leadership, and the integration of reproductive health services with the extensive primary health care network of Iran are identified as the main factors underlying the unexpected success of the revived family planning program in Iran. Official government promotion of birth control and the support of the politically dominant religious leaders has not only helped to legitimize contraceptive use but it has also eliminated most of the physical barriers to family planning, particularly among the rural and lower class urban couples. The present analysis also calls attention to the importance of such socio-economic factors as urbanization, modernization, expansion of educational opportunities, particularly for women, raised expectations regarding the future education and employment of children, improved general health and lower infant mortality rates, and access to modern means of communication and comfort. The importance of these factors is underlined by the fact that there were signs of rising contraceptive use and fertility decline even before the change in government policy in 1989. It is also noted that a striking rise in age at first marriage has taken place despite continuing government efforts to promote and reinforce early marriage as a religious value. Nevertheless, marriage remains more or less universal and there is strong evidence that the bulk of the observed decline in fertility is due to contraceptive use by married women.

1. Introduction

According to latest estimates (PRB, 2000; HDR, 2000), in late 20th century only about a dozen countries had reached a contraceptive prevalence rate of 70+. Only five of these were from developing areas of the world. The Islamic Republic of Iran was one of them. The data quoted belong to 1996 but it has been firmly confirmed by the exceptionally large-scale Demographic and Health Survey completed in October/November 2000. According to initial results of this survey, 73.3 percent of currently married Iranian women aged 15+ were using a contraceptive. The contraceptive prevalent rates for urban and rural areas were 77.4% and 67.2%, respectively.

These impressively high contraceptive prevalence rates put Iran at the upper ranks of both developed and developing countries in terms of contraceptive use. They deserve special attention by the international community of demographers and reproductive health researchers on two counts. First, Iran is a major Islamic country that, since the Islamic Revolution of 1979, has adopted a quite novel approach to politics and socio-economic development based on the Shiite school of Islam. Secondly, the RH/FP program of the IRI was officially launched just over ten years ago following a decade of intense pronatalist policy and propaganda presenting early marriage and high fertility as basic Islamic values. Moreover, in the initiation and implementation of its RH/FP program the IRI has almost exclusively relied upon local resources and thus it has succeeded to launch a highly effective program with little foreign input in terms of either financial resources or technical assistance.

The aim of this paper is to present a brief review of the development, and achievements of the family planning program of the IRI in terms of total contraceptive prevalence, promotion of modern methods of contraception, and narrowing of the gap between urban and rural areas and more developed and less developed regions of the country. Evidence concerning the sharp decline in fertility of Iranian couples since late 1980s will also be reviewed and more recent information confirming the continuation of the decline after the 1996 census will be offered. Finally, the relative impact of the revived family planning program as compared with other potential factors on fertility decline in Iran will be considered.

2. Sources of data

The main sources of data used in this analysis are as follows:

1. Annual KAP surveys carried out by the Ministry of Health and Medical Education (MOHME) between 1989-1997;
2. National population censuses conducted by the Statistical Centre of Iran (SCI) in 1976, 1986, 1991, 1996;
3. The exceptionally large-scale Demographic and Health Survey (DHSI2000) carried out jointly by the Ministry of Health and Medical Education and the Statistical Centre of Iran (SCI) in October-November 2000;
4. Iran Fertility Survey conducted by the SCI in 1976-77;
5. Independent surveys carried out by individual researchers not affiliated with the MOHME;

3. Historical Introduction

After some flirtation with a pronatalist policy, the Imperial Government of Iran adopted a population control policy and established a national family planning program in 1967. To ensure that the new program would not be stifled by the crusty bureaucracy of the Ministry of Health (MOH), a new post of the Deputy Minister for Health and Population was created and a close relative of the Shah's most trusted and longest serving prime minister (*Amir Abbas Hoveyda*) was chosen to fill the post.

Thanks to the political support of the Prime Minister and the ungrudging financial and technical assistance received from the USAID and other international agencies, the FP Program expanded rapidly and took over the responsibility for the MCH and primary health care services in rural areas. The latter was mainly based on the Health Corps Project under which secondary school and university graduates had to spend their military services acting as health workers and community development agents in rural areas. The FP program was given the responsibility for the implementation of the

project. As the scheme involved both male and female graduates and, like the rest of the Shah's White Revolution package, was suspected of being politically inspired, it was opposed by the opponents of the regime, including the late Imam Khomeini. Due to the political importance of the project, the FP program soon came to dominate the whole MOH. Later on, to gain more political support and resources, the Program aligned itself with the Shah's powerful but unpopular sister, Princess Ashraf, and the Iranian Women's Organization headed by her. As a result of this alliance, the FP program became involved in the promotion of certain well intended but highly sensitive legislation aimed at improving the status of women (e.g., raising the age of marriage and curtailing the sole right of men to divorce). The involvement of the FP program with these initiatives further affected its acceptability by the increasingly politicized religious community.

3.1. Shiite Ulama and the Family Planning Program before the Revolution

As an indication of the insensitivity of the program to the traditional values of Iranian society, it may be worth noting that during its 12-year history, almost no official efforts were made to obtain or publicize formal rulings (*fatwa*) in support of contraception and family planning from any of the top level religious leaders then reigning in the Iranian theological centers of Qum and Mashhad. In fact, the only public statement on the permissibility of contraceptive use known to be issued by a senior religious leader (*ayatollah*) inside Iran before the Islamic Revolution is the *fatwa* made by the late Ayatollah Baha-ud-Din Mahallati of Shiraz (Omran, 1992). This *fatwa* dates back to 1963, that is four years before the inauguration of the FP program, and had been issued in response to a written question by a religiously oriented gynecologist working at Shiraz University.

This highly positive *fatwa* issued by one of the senior, although parochial, Shiite leaders who later emerged as a close ally of Imam Khomeini, indicates that the politically active Shiite *ulama* who later assumed the leadership of the Islamic Revolution were by no means against family planning. Judging by Ayatollah Mahallati's *fatwa*, they had in fact supported birth control and family planning before there was an official family planing program. This impression is also supported by the radically positive attitudes towards contraception as well as the use of such controversial methods as sterilization (and even abortion) expressed by the two eminent Shiite scholars (Shaikh Mohammad Mahdi Shamsuddin and Shaikh Mohammad Hossain Bahishti) who had attended the Rabat Conference on Islam and Family Planning (1971) in their private capacity as representatives of the Shiite clergy. Interestingly, both of them later emerged as highly influential members of the coalition of revolutionary Shiite clergy who actively supported Ayatollah Khomeini in his final battle against the Shah (Mehryar, 2000).

3.2. Achievements of the FP Program during the Pre-Revolutionary Period, 1967-1978.

Despite all the resources allocated to the family planning program and aggressive publicity and social marketing activities undertaken in early 1970s (e.g., Gillespie, 1972), its achievements during the decade preceding the Revolution can only be judged as modest. According to official statistics, by 1975 the annual expenditure of Iranian government on family planning program had risen to $28,000,000 (Nortman & Hofstatter, 1976). This is the second largest amount allocated to family planning among the 16 nations listed by Nortman & Hofstatter (1976). Official statistics supplied to the Population Council for 1978, the last year before the Revolution, give the estimated number of contraceptive users from all sources as 1,358,000, of which 905,000 (67 percent) had used government supported FP services. The figure indicates a surprising rise in the number of contraceptive users since 1977. Compared with the estimated number of married women aged 15-44 of Iran, it indicates an overall contraceptive prevalence rate of 24.3 percent of which 16.2 percent were using the publicly supported services. The overwhelming majority (86%) of all service users were relying on oral contraceptives (Nortman & Hofstatter, 1979).

The Iran Fertility Survey (IFS, 1977), the last and probably the most reliable source of information on the performance of the Iranian FP Program shortly before its suspension (SCI, 1986; Aghajanian et al, 1995), gives a somewhat higher contraceptive prevalence rate (37 percent) which is mainly due to the inclusion of a large proportion of women who reported using the non-program dependent traditional method of withdrawal. The rates of current contraceptive use were however much lower for the rural (20%) couples than the urban (54%).

In view of the modest performance of the family planning program during its first decade of existence, the slight decline in population growth (from 3.1% to 2.7%) and fertility (from a TFR of 7.0 to 6.3) rates between 1966-1976 as revealed by the 1976 census could hardly be attributed to the family planning program. In fact further analysis of the 1977 IFS has led Raftery, Lewis and Aghjanian (1995) to conclude that:

> *"Marital fertility in Iran increased during the 1950s and started to decline around 1959, a few years after the beginning of massive economic growth around 1955. The decline continued until 1977, the year in which IFS was conducted. This decline was largely urban, amounting to about four children per married woman in Tehran, somewhat less in smaller cities, and very little in rural areas. It closely paralleled the large increase in primary school*

> *participation. More than one quarter of the decline can be attributed to the reduction in child mortality, a key mechanism of demand theory. There is no evidence that the Family Planning Program or the Family Protection Act, both instituted in 1967, accelerated the decline; certainly neither caused its onset"*. (Raftery, Lewis and Aghjanian, 1995, P. 175).

Moreover, recent studies applying the own-children method to the 1986 census data have shown that, contrary to the impression given by the 1976 census, the fertility of Iranian couples had in fact taken an upward trend between 1972 and 1978 (Abassi-Shavazi, 2000; SCI, 2001). This is not unexpected in view of the sudden improvement in the living standards of Iranian families and a sharp reduction in the costs of child bearing following the oil glut of 1973.

3.3. Islamic Revolution and the Family Planning Program

3.3.1 Early Demise and Suspension of the FP Program

As a result of its close identification with the Shah's regime, particularly its alliance with the Iranian Women's Organization led by Princess Ashraf, when the Islamic Revolution erupted suddenly in mid-1978, the FP program could count on few friends among the lay and religious groups involved in the Revolution. Moreover, both the rank and file personnel running the program and the public interested in using its services were uncertain as to the place of contraception and family planning in the new order of values ushered in by the Revolution. Due to the inadequate attention given to propagation of well-known traditions supporting the practice of *azl* (withdrawal) and, by extension, other contraceptives by the Family Planning Program, the majority of people did not know whether family planning would be permissible in the drastically changed social and cultural environment that had been created by the Revolution. Professional cadres trained to run the program would seem to have been equally uncertain with regard to their possible role and position in the new social and political environment created by the Revolution.

The general impression given by some foreign commentators on the IRI is that the Shiah clergy leading the Islamic revolution were vehemently against family planning and that all FP services were disbanded immediately after the revolution. This is only partly true. There is no doubt that the FP program, like most other modernization efforts initiated by the Shah's regime, was viewed with suspicion by the majority of political groups involved in the Revolution. Most of them did not believe in population growth as a serious problem for an oil rich country like Iran. Many of them also considered the whole birth control movement an American inspired plan to keep the population of Iran and other developing countries down.

Many of the Western trained intellectuals who returned to Iran after years of self imposed exile and were given top level responsibilities by the Revolutionary government too believed that underdevelopment and dependency on the Western imperialist world-order was the main problem facing Iran. They were convinced that Iran had the necessary resources to embark on rapid development and modernization despite a rapidly growing population. The most vociferous of them (like the French-trained first elected president of the IRI) believed that development was the best contraceptive. This did not however mean that either them, or even the majority of old and conservative *ayatollahs*, were against fertility regulation through contraceptive use as a matter of individual choice. This is clearly reflected in the readiness of Imam Khomeini and three other grand *ayatollahs* to issue unequivocal *fatwas* supporting contraceptive use only a few months after the triumph of the Revolution.

3.3.2 Efforts to Keep the Program Alive

Thus the suspension of the FP program immediately after the triumph of the Revolution in early 1979 was probably more due to the uncertainties felt by the middle- and lower-level cadres of the programme than any formal policy change by the Revolutionary government or serious opposition to birth control on the part of the top religious leadership. These uncertainties do not seem to have been shared by the more senior medically trained people who were given the leadership of the MOH immediately after the Revolution. Among the latter was the late Dr Kazem Sami, a psychiatrist and founding member of the Socialist Muslim Party of Iran, who had been imprisoned several times by the Shah's regime and was chosen as the first Minister of Health in the late Mahdi Bazargan's caretaker government. Despite his leftist views and deep religiosity, he would seem to have been well aware of the deleterious health and personal consequences of high fertility and rapid population growth.

So, less than four months after the triumph of the Revolution, around June 1979, he sought an audience with Imam Khomeini during which he raised the issue of birth control and need for family planning. At the end of this meeting, Dr Sami informed reporters that the Imam had agreed with his suggestion to keep the FP program alive. A few months later, in September 1979, the MOH submitted a written report to the late Imam emphasizing the need for continuation of FP services. In this report the implications of rapid population growth and need for provision of modern contraceptive services by the MOH had been described and Imam's explicit guidance on the matter had been requested. The Imam wrote the following on the margin of the report:

> *"If the use of these methods does not expose women to any health problem (or harm) and it is also approved by her husband, [their use] to solve the problems [mentioned in the report] is religiously permissible"*. (Verbatim translation from the text given by Ashofteh-Tehrani, 1985, P.321).

This statement was taken as an official *fatwa* by the MOH and circulated to all relevant departments of the Ministry. In view of the continuing doubts and debates among the rank and file of the program, several other efforts were made to obtain written statements from Imam Khomeini which resulted in equally positive *fatwa*s.

In early 1980, while Imam Khomeini was hospitalized in Tehran Heart Hospital, Dr. M. R. Moatamedi, then Deputy Minister of Health in Charge of Family Planning, presented the Imam with a written request asking for his advice on the permissibility of using IUD and sterilization. The letter starts with a brief description of each method and goes on to add that these methods were used in Iran before the Revolution but since the Revolution their provision by the public health department has been officially suspended. It adds that "Certain people are however still eager to use them and the MOH does not know how to respond to their demands". In a brief response, the late Imam wrote back:

> "*Prevention of pregnancy is not forbidden. As long as it is done with the consent of the couple, does not expose them to any harm, or require action inconsistent with religion, it is permissible"*. (Verbatim translation from the text given by Ashofteh-Tehrani, 1985, P.323).

These *fatwas* were quickly communicated to Regional Health Departments. The copy sent to the Health Department of Isfahan province is dated [13]59/06/23 (14 September 1980) and signed by the Director General for Family Health of the MOH. Almost a month later in a circular signed by Dr Motamadi, Deputy Minister of Health for Public Health, Population, and Family Planning and dated [13]59/7/22 23 (14 October 1980) the recipients are informed that:

> *As some Regional Health Organizations and other executive centers continue to raise questions regarding the permissible methods of family planning, the subject has been shared with the Maraje'e Taghlid (Top Religious Leaders) and the results are as follows:*
> 1. *None of the methods, devices and drugs currently supplied by family planning clinics including pill, condom, IUD, and other available devices are prohibited and they should be made freely available to couples who consent to use them;*
> 2. *Sterilization is not currently among the free of charge methods offered by the MOH"*.

> *It is thus necessary that all executive agents of the program as well as service receivers be properly instructed on this matter and all resources should be mobilized to [re]activate the program"* (Verbatim translation from the text printed in Ashofteh-Tehrani, 1985, Pp. 324-325).

As an indication that the circulars sent by the central authorities were not sufficient to convince the rank and file of the program and to relieve their concerns once and for all, there is evidence that some provincial officials too went out of their way to directly share their concerns with Imam Khomeini and other *Maraje'e* (leading religious leaders). One such letter is written by Dr Esmail Akbari, Director General for Health of Isfahan Province, and dated 1359/11/7 (31 January 1981) in which Imam Khomeini's views on IUD, tubal ligation, and vasectomy are specifically asked for. In response to this letter, the late Imam has written:

> "*Prevention of pregnancy with the consent of husband and wife is not prohibited. But it is not permissible if it entails physical damage or sterility.* (Verbatim translation from the text printed in Ashofteh-Tehrani, 1985, P.327).

In a letter sent by the Deputy Minister for Public Health, Population and Family Planning to the Health Department of Isfahan province (dated [13]59/12/27 (17 March l981) reference is made to a *recently held seminar* on the "*Problems of Implementing the Health Program*" which apparently also dealt with family planning and the recipient of the letter is advised to ask for additional budget for maternal, child health, family planning and nutrition services envisioned for the financial year 1360 (1981-1982). It goes on to add that:

> "*According to the final resolution of the said seminar, Imam Khomeini's views will be the basis for the operational and educational activities related to family planning so that no doubt and hesitation will occur among applicants, users and demanders of services or service providers regarding their permissibility"*. (Verbatim translation from the text printed in Ashofteh-Tehrani, 1985, Pp. 327-8).

To provide further support for the continuation of the program or its activities, one of the technical officers of the Family Planning Program, Mr. Ali Akbar Rezai Ashtiani, sent a letter dated [13]60/3/28 (18 June 1981) to *Grand Ayatollahs* Golpaygani, Najafi Marashi and Shirazi asking for their views on the use of such contraceptives as pill, IUD, condom, cap or diaphragm, crème, jelly and injectables as well as

withdrawal. Grand Ayatollah Golpaygani, then the highest ranking *ayatollah* of the country besides Imam Khomeini, wrote back:

> "*If the use of the said devices harms women physically or makes them sterile they are not permissible. But if they are not harmful and only temporarily prevent pregnancy nothing is wrong with their use*". (Verbatim translation from the text given by Ashofteh Tehrani, 1985, P. 324).

Other two ayatollah's responses were equally positive (See Mehryar, 2001)

3.3.3 Suspension of the Family Planning Program

From the foregoing account and the numerous *fatwas* obtained during the first two years after the Revolution, it would appear that during this period both the top level mangers responsible for the administration of the health services of the IRI and their middle level technical administrators were deeply concerned with population problem and made several attempts to keep the family planning program alive. This impression is supported by the fact that the draft outline of an unpublished national plan concerning "Problems Facing the Country" prepared in 1981 by the "Office of the Deputy Prime Minister in Charge of Revolutionary Projects" has listed rapid population growth among the major problems facing the revolutionary regime.

With the increasing radicalization of the political situation after the American hostages' issue and resignation of Bazargan's caretaker government (which had been criticized as being liberal by both rightist and leftist forces involved in the Revolution), the situation started to change. After the sudden Iraqi invasion in September 1981 and the start of the eight-year war, population and family planning would seem to have lost their priority. In fact, the political and psychological atmosphere created by the Iraqi invasion may have been one of the major factors that transferred large population and its rapid growth into a matter of comparative advantage rather than liability.

Following the hostage crisis, the young IRI regime had been formally blockaded by the USA and had lost almost all international sympathy and support. While Iraq was receiving generous financial aid from most Arab countries and thus had no problem in buying modern weapons from its traditional arms suppliers (France and the Soviet Union), Iran was forced to use its dwindling oil resources to buy spare parts for its largely American made weapons and aircraft from international dealers or to depend on untested Asian arms producers and suppliers (China and North Korea) for meeting its increasingly crucial needs for modern weapons. Under the circumstances, the

creation of a sizeable volunteer army ready to fight for the revolution and country seemed vital**.** The universal rationing program introduced as part of the national war effort also provided some tangible economic incentives for having more children. Under this program, all household members, regardless of age and sex, were entitled to relatively generous coupons which covered almost all basic needs as well as such modern consumer goods as radio, television, carpets, refrigerators and washing machines. Having a new baby meant immediate access to an additional share of the rationed goods. Thus, couples had good reasons to prefer high fertility and large families.

As a reflection of the changed priorities, it may be of interest to note that a preliminary draft of the First five-year Plan of Development prepared in 1984 does not even mention population growth as a problem. This is despite the fact that around the same period one of the pro-family planning technical staff of the Ministry of Plan an Budget had tried to keep the debate on family planning alive by putting together available arguments for permissibility of contraception by Islamic writers, including most of the above mentioned *fatwas* by Imam Khomeini and other grand ayatollahs (Ahmadi, 1984).

3.3.4 Continued Provision and Use of Family Planning Services

Contrary to the general belief, the suspension of the official family planning program after the Revolution did not mean the total discontinuation of family planning services and supplies either by the public or the private health sector. In fact, despite the abolition of the FP department and the discontinuation of all IEC activities, the provision of FP services by the MCH facilities run by the Ministry of Health (MOH, renamed as Ministry of Health and Medical Education, MOHME, since 1986) and the private health clinics and practitioners was allowed to continue throughout the period 1979-1989. As evidence of the continuation of the family planning services, it is worth noting that the *'Statistical Yearbook of Iran'* published annually by the Statistical Center of Iran (SCI) includes full page tables of the family planning services rendered by the *'Office for Family Health & Family Planning'* of the MOH for most of the years between 1981-1988. A similarly long list is given in the Annual Report of the MOHME for 1992. A summary of these statistics is given in Table 1.

of a relatively well developed private health care sector, particularly in the urban areas of Iran, the statistics collected by the MOHME on publicly provided services and contraceptives most likely under-represent the level of contraceptive methods and services that were actually available to Iranian couples during this period. Nevertheless, the huge number of women who have used public health clinics for family planning services between 1979-1988 bear witness to the magnitude of the demand for birth control during this period.

Table 1. Number of FP clients served and amount of major contraceptives distributed by the MCH clinics of the MOHME between 1978-1990.

Year	***Number of FP Clients Served***	***Boxes of pill Distributed***	***Number of Condoms Distributed***	***Number of IUDs Inserted***
1978	5,230,000	4,665,000	418,000	10,000
1979	4,191,000	3,823,000	284,000	9,000
1980	4,250,000	3,212,000	257,000	11,000
1981	5,603,000	5,078,000	472,000	17,000
1982	6,196,000	5,442,000	548,000	25,000
1983	5,943,000	5,096,000	551,000	27,000
1984	6,058,000	5,163,000	620,000	29,000
1985	6,604,000	4,935,000	708,000	33,000
1986	6,701,000	5,134,000	758,000	35,000
1987	7,051,000	5,216,000	1,043,000	46,000
1988	5,354,000	4,738,000	280,000	55,000
1989	9,011,000	7,532,000	1,383,000	97,000
1990	10,412,000	4,564,000	2,712,000	132,000

Source: . Mehryar et al, 1995; Ladier-Fouladi, 1996, Table 9, P. 1113. In view of the existence

The findings of the first KAP survey conducted by the Ministry of Health and Medical Education in 1989 (Malekafzali, 1989), shortly before the official inauguration of the family planning program, also confirms the conclusion that the public demand for and practice of family planning had been far from negligible during the preceding decade. According to this survey, almost two-thirds (64percent) of the urban and one-third (31percent) of the rural women interviewed reported to be using a family planning method. However, just over one half (52%) of urban women but two-thirds of the rural were using a modern method. The contraceptives used included pill, condom, and IUD which were used by 60 percent, 23 percent, and 17 percent of urban and 83 percent, 6 percent, and 12 percent of rural women using a modern contraceptive. The significance of the 1989 findings will become more apparent if one compares them with data for the final years of the pre-Revolutionary period cited above.

4.0 1986 Census and Policy Reversal

4.1 Initial Euphoria over the Huge Population Growth Rate Revealed by the 1986 Census

Shortly after the revolution, the young IRI fell victim to open military invasion by Iraq and the country had to suffer an eight-year modern war as well as international economic embargo imposed by the United States. Under the circumstances, population size was bound to emerge as a measure of 'comparative advantage' and a major propaganda issue if not a real asset.

In this context, it was not surprising that many of the top leadership of the country did not hide their sense of relief and joy when the first results of the 1986 census were published. According to this census, the population of Iran had increased at the staggering rate of 3.9 percent per year since 1976 and stood at above 49 million. The incumbent Prime Minister (Mir-Hossein Moosavi) openly hailed the enormous growth of the population as a 'God Sent' gift. Even the more realistic speaker of the Islamic Consultative Assembly (Parliament) (the later president Hashemi-Rafsanjani), hailed the unexpectedly high population growth rate revealed by the 1986 census and claimed that Iran could afford and should aim at a much larger population.

4.2 Gradual Appreciation of the Implications of the 1986 Census Results

As the detailed results of the census became available and the leadership of the IRI realized their immediate and long-term implications for the war shattered economy of Iran, the situation changed from one of public euphoria to private concern. This was not unexpected in view of the fact that by this time the IRI had depleted almost all of its foreign exchange reserves and, due to intensified Iraqi air attacks on oil installations and tankers, her capacity for oil production and export had been seriously curtailed. The Ministry of Plan and Budget (later renamed as the Plan & Budget Organization, PBO), the main government agency responsible for planning and allocation of national resources, was well aware of the vulnerable state of the economy and its inability to bear the burden of a rapidly rising, young population. The PBO was at the time working on the preparation of a new version of the long-shelved First Five-year Plan of Development which was expected to be implemented immediately after the war. Partly in preparation for this Plan and partly to get an estimate of the damages suffered by the Iranian economy during the 8-year war, the PBO had collected a vast amount of data on a variety of issues, including employment and demand for basic services.

This evidence, which was later published as a supplement to the FFYDP Bill (PBO, 1989), went a long way in alerting the leadership of the IRI to the dwindling resources of the nation and their insufficiency to meet the high cost of war as well as to provide the variety of social and welfare services envisioned by the IRI Constitution. Ministers responsible for such basic services as the agriculture and food production, health, and education along with the technical staff of the Plan and Budget Organization took every opportunity to call attention to the inevitably grave consequences of unchecked population growth and to emphasize the need for a population and birth control policy. The efforts of the Ministry of Health and Plan & Budget Organization to keep population as a major issue in all cabinet discussions on post-war reconstruction programmes were particularly important.

4.3 Preparation for the Adoption of a Population Policy

In response to the evidence and arguments presented by the PBO and other economic experts, in February 1988, Prime Minister Moosavi sent a circular to all ministries and government departments asking them to carefully consider the impact and implications of the high rate of population growth in preparing their proposals for the FFYDP. In March, 1988 a committee was organized in the Ministry of Plan and Budget, consisting mostly of the technical staff of that ministry and a few academic demographers, to prepare for organization of a population seminar. To facilitate the work of the conference committee, the Prime Minister issued a memorandum to all government ministries declaring that the government of the IRI was *"reconsidering the issue of population growth"*.

4.4 The First Seminar on Population and Development, 1988

Having convinced the President, the Prime Minister, and Heads of the Legislative and Judiciary Branches, and other top level policy makers of the urgent need for population control, the PBO and the MOHME saw it necessary to launch a carefully designed publicity stunt to test the readiness of other layers of the policy elite and the general public for a national population policy and birth control program. To this end, a three-day "Population and Development Seminar" was held in Mashad city in September 1988. It was opened with a special message from the Prime Minister and the Ministers of Plan and Budget and Health presented detailed analyses of the implications of unchecked population growth for the socioeconomic development of the country as well as the health and welfare of its citizens. Academic demographers as well as experts from such ministries as agriculture, education, economy, and health used the opportunity to stress the need for planning and control of the population and other resources of the nation.

The resolution approved at the end of the seminar made a number of specific recommendations regarding the need for and means of population control and family

planning. The seminar in effect publicly declared that the rate of population growth in Iran was too high and that, if left unchecked, it will have seriously negative effects on the national economy and the welfare of the people. The participants strongly urged the government to include population issues in policy making.

At the end of the Mashad Seminar, the Minister of Health & Medical Education reiterated the late Imam Khomeini's *fatwa* regarding family planning in a press conference, and announced that a family planning program would be established. Almost simultaneously, the prime minister went out of his way to declare that "*birth control*" was a "*destiny factor*" for Iran and invited women to prevent unwanted pregnancies by seeking help from publicly run health clinics and health houses around the country.

4.5 Special Seminars on Islam and Family Planning for the Top Clergy, 1989

The Mashad Seminar on Population and Development was a predominantly professional and technocratic gathering and had thus failed to get the influential clergy (*Ulama*) outside the central government involved in its deliberations. To make up for the under-representation of the traditional clergy at this seminar and to ensure that the proposed population/family planning policy would enjoy their support, family planning was singled out for special consideration and discussion by a group of eminent clergy and physicians attending a seminar on "Islamic Perspectives in Medicine" organized by the Mashad University of Medical Sciences in February 1989. This was followed by another seminar explicitly dealing with "Islam and Population Policy" which was held in Isfahan in April 1989 and brought together a large number of eminent clergy. As an indication of the public interest in population and family planning stimulated by these Seminars, it may be of interest to note that, according to one source, over one hundred articles were devoted to the topic by the major Tehran newspapers between 1988-1990 (Ayazi, 1994).

4.6 Signs of Persisting Doubt and Opposition to Policy Change

Despite these preparations, some hard-line but influential clergy, both within and outside the regime, were not convinced about either the urgency of the population problem or the consistency of public investment in family planning with the basic tenets of Islam. A contributor to the "*Jumhuri Islami*" newspaper, which is well known for its combination of a rightist anti-liberal position with leftist economic policies, saw the hand of Western imperialism behind the offer by the UNFPA to partially fund the proposed family planning program of Iran (Ayazi, 1994). Despite these careful preparations, some conservative clergy outside the government have continued to question the legitimacy of family planning, calling it "a heavy blow to Islam" (Tehrani, 1994).

4.7 Legalization of Family Planning

In December 1988, the High Judicial Council had issued an official declaration reaffirming that "there is no Islamic objection (or legal barrier) to family planning." This official pronouncement removed all potential judicial impediments and paved the way for the initiation of the family planning program by the MOHME. The level of commitment of the government to the family planning program is well reflected in the fact that in early 1989 Prime Minister Moosavi announced that "*none of the government's development and welfare programs are likely to succeed without a serious family planning program*." He explicitly referred to the need for a solution to the population problem and referred to figures on Iran's population growth rate as '*alarming'*. (Mehryar et al, 2001).

5.0 Revival of the Family Planning Program

Thus the way was paved for the reintroduction of a population policy and the revival of the family planning program. Several outstanding religious leaders spoke out in favor of population control and Friday prayer leaders were instructed to discuss the issue as part of their weekly sermons. The basic idea was in principle approved. But in view of the existence of certain objections within the Islamic Consultative Assembly (Parliament), the government decided to withdraw the family planning bill that had been submitted to the Parliament. Instead, the basic ideas of the population control and FP were included in the FFYDP Bill. Thus, the main elements of a national family planning policy were formally adopted and ratified in 1989 when the First Socioeconomic Development Plan (FFYDP) was approved by the Islamic Consultative Assembly (the Parliament).

The FFYDP has set specific, although modest, targets for the family planning program. These include reduction of the total fertility rate of Iranian women from 6.4 in 1986 to 4.0 by the year 2006 and the decrease of the natural rate of growth of the population from 3.9 percent to 3.2 percent by the end of the Plan (1993) and to 2.3 percent by the year 2006. To reach these goals, the coverage of family planning services was to be extended to 24 percent of the potentially fertile women by the end of the FFYDP (1993).

6.0 Organization of the Revived Program

6.1 Designation of the MOHME as the Parent Institution

In line with the above mentioned goals, the Ministry of Health and Medical Education was given the mandate, and almost unlimited resources, to provide free family planning services to all married couples, to promote small family size norms, and to

help individual couples keep their family size at a reasonably low level (2 to 3 children). Several other Ministries as well as the Islamic Republic of Iran Broadcasting Organization (IRIB) were required to closely cooperate with the Ministry of Health in promoting these objectives. A separate *Population and Family Planning Directorate* was eventually set up within the MOHME in 1991 under the overall supervision of the Deputy Minister for Public Health whose office is also in charge of the primary health care and MCH services.

6.2 Provisions for Inter-Sectoral Cooperation

To further ensure the inter-sectoral cooperation needed, an interdepartmental Family Limitation Commission was set up by a cabinet decree passed in September 1990. Headed by the Minister of Health, the Commission was to include the Ministers of Health, Education, Higher Education, Labor and Social Affairs, Culture & Islamic Guidance, and Plan & Budget as well as the head of the Civil Registration Organization of the Ministry of Interior. The main functions of the Commission were to "monitor, supervise and coordinate all government policies and activities bearing on the control of the population growth, to report on steps taken by member organizations, to make recommendations on the formation of a High Council on Family Planning and its functions and membership, and to review proposals made for changing laws and regulations that may encourage or inhibit population growth". A remarkable feature of this decree is the attention it has given to such '*beyond-the-family planning*' measures as the reduction of infant mortality, facilitation of women's education and employment, and extension of social security and retirement benefits to all parents so that they will not be motivated to produce many children as a source of old age security and support.

6.3 Major Goals of the Revived Program

The family planning program officially inaugurated in December 1989, had three major goals: (1) to encourage a spacing of 3 to 4 years between pregnancies; (2) to discourage pregnancy for women aged below 18 and above 35 years; and (3) to limit family size to 3 children. To remove continuing doubts regarding the acceptability of sterilization, in 1990 the High Judicial Council declared that sterilization of men and women was not against Islamic principles or existing laws.

6.4 The 1993 Family Planning Law

The Family Planning Bill which had been prepared in 1989 was finally ratified by the Parliament in May 1993. The ratification of this Bill not only removed most of the economic incentives for high fertility and large families but it also provided the necessary legal basis for the population control policy and family planning program envisaged as part of the First five-year Plan of Social, Economic and Cultural Development. The Family Planning Law has also taken due notice of the critical importance of such measures as the creation of educational and employment

opportunities for women, ensuring the survival of new born children through improved MCH services, and extension of the coverage of the social security system.

6.5 IRI and ICPD: From Family planning to Reproductive Health

In view of the foregoing developments and her commitment to population control and family planning, the government of the IRI welcomed the opportunity offered by the International Conference on Population and Development (ICPD) to share its conception of and achievements in family planning and reproductive health with other nations attending the conference (Cairo, 1994). The open discussion of various aspects of reproductive health by the affably dynamic old cleric acting as the self-appointed leader of the IRI delegation as well as the enthusiastic participation of the c*hador* wearing women members of the delegation, most of whom were well trained medical specialists, did not fail to impress even the most skeptical observers regarding the commitment of the IRI to family planning and reproductive health.

This did not mean that the IRI was ready to accept all the points included in the agenda and resolutions of the ICPD. While proving more progressive than the Catholic church and many other religious organizations with regard to the basic ideals of reproductive health, particularly those concerning the health of women and their right to use contraceptive methods for pregnancy prevention within socially sanctioned marital relations, the IRI delegation openly disagreed with several other recommendations included in the ICPD agenda. Among these were:

- The recognition of abortion as a legitimate form of contraception;
- The re-definition of the concept of 'family' to accommodate non-marital unions;
- Replacement of the term 'couples' by the term 'individuals';
- Tacit approval of prostitution by condemning only 'involuntary prostitution';
- Recommendation of the universal exposure of all children to 'sex education' Programs at an early age (as contrasted with 'an appropriate age');

6.6 Areas of Reproductive Health Emphasized

The major areas of Reproductive Health included in the national position paper of the IRI and enthusiastically promoted by the IRI delegation included:

1. Safe motherhood, including antenatal, perinatal and postnatal care;
2. Family planning aimed at enabling married couples to make informed decisions regarding the number of children they want and to prevent unwanted pregnancies ;
3. Treatment of disorders resulting from unwanted pregnancies (including therapeutic abortion when medically indicated to save the life of the mother);
4. Prevention, care, and treatment of STDs, including HIV and AIDS;

5. Promotion of the reproductive health of adolescents, particularly adolescent girls, through education, information and premarital counseling;
6. Enhancement of the nutritional status of mothers and children;
7. Prevention of violence against women;
8. Screening of all women for cancers of the reproductive system and their timely diagnosis and treatment;
9. Promotion of healthy sexual relations within marital unions;
10. Care of newborn infants and young children.

Among the groups and problems listed above, those concerning the health of mothers and children and the provision of contraceptive supplies and services have received much more attention than others.

7.0 Achievements of the Revived Program

Since its official revival in 1989, the FP program of Iran has taken great strides towards its main objective of offering eligible couples with a variety of family planning services and contraceptive devices. Its relative success in promoting contraceptive use can be assessed through a study of contraceptive prevalence rates and the mix of contraceptives used. The annual KAP surveys carried out by the MOHME between 1989-1997 provide a wealth of data on these issues. The large-scale DHS-type survey conducted in late 2000 has provided fresh evidence of the health and demographic impact of the program since 1997. A few independent surveys carried out by individual researchers not affiliated with the MOHME have generally confirmed the results of MOHME surveys (Agha, et al., 1997; Mehryar, Agha & Mostafavi, 1998). Evidence on potential impact of the program on the fertility rate of the population can also be ascertained through an analysis of census and survey data collected by the Statistical Center of Iran since 1986.

7.1. Rise in Contraceptive Prevalence Rates

The total contraceptive prevalence rates of rural and urban women shown by six national surveys carried out since 1977 are summarized in Table 2. The 1977 and 1989 are included in the table because they provide a good basis for comparing the achievements of the program shortly after its revival (1992) with the contraceptive use rates that prevailed during the last years of the pre-Revolutionary period (1977, when there had been an active family planning program for over a decade) and immediately before its revival (1989, when there had been no official program for over a decade).

According to the 1992 survey, almost two-thirds (64.6%) of married women aged 15-49 were using a contraceptive. As expected, the rate was higher for urban women (74.1%) than the rural (51.5). Two years later, the overall contraceptive prevalence rate had risen to 70.0%

and the gap between urban (77.9%) and rural (59.3%) women had been further reduced. The national KAP survey for 1996 shows only a noticeable rise (from 70.0 to 76.2) in the total contraceptive prevalence rate which is mainly due to a marked rise in the CPR of the rural women (from 59.3 to 70.1%). The 1997 KAP survey on the other hand suggests a slight decline in the overall CPR (from 76.2 to 72.9) which is noticeable in both urban (77.4%) and rural (65.9%) areas. The DHS 2000 shows virtually no change since 1997 in the CPR of urban women (77.4) but a slight increase in that of the rural couples (from 65.9 to 67.2) which has resulted in a slight rise in the overall CPR (from 72.9 to 73.8). On the whole, results from the 1994, 1997 and 2000 surveys are more similar (and somewhat lower than the figures for 1996).

Table 2. Contraceptive Prevalence Rates Revealed by National KAP Surveys Conducted in Iran between 1976-1997

Region/Year	*1977*	*1989*	1992	1994	1996	1997	*2000*
Urban	*53.8*	*64.0*	74.1	77.9	80.7	77.4	*77.4*
Rural	19.9	31.0	51.5	59.3	70.1	65.9	67.2
Total	*37.0*	*48.9*	64.6	70.0	76.2	72.9	*73.8*

(Source: For 1992-1997, SCI, 2000, Tables 1.9-1.11; For 2000, MOHME, 2001).

Judging by the results of the 1989 KAP survey, it would appear that, even before the official revival of the family planning program, close to 50% of Iranian couples were using contraceptives. The figure is about 12% higher than the rate for 1977. Interestingly, the gain in contraceptive prevalence level between 1977-1989 is more or less the same in rural (from 20% to 31%) and urban areas (from 54% to 64%).

Thus, by 1997, that is only eight years after its official revival, the family planning program of Iran had been able to extend its coverage to almost three quarters of the target population. The overall CPR level would seem to have risen minimally between 1997-2000. The level of coverage is not only respectably high in terms of international standards but it is almost twice the level of coverage (37%) achieved by the pre-Revolutionary program in 1977, that is, ten years after its formal initiation.

7.2 Narrowing of the Urban-Rural Gap

More important, according to the 1977 survey, the contraceptive prevalence rate for urban women (53.8%) was more than two and half times that of rural women (19.9%). In contrast, the rural-urban difference in contraceptive prevalence for 1992 is only 23%. Five years later, according to the 1997 survey, the urban-rural gap had shrunk to 12%. By 2000, there was only a 10.2% difference between the CPR of urban and rural couples. The small but persistent discrepancy in favour of urban women revealed by recent surveys is mainly due to the fact that a much larger

proportion of the urban couples as compared with the rural continue to use the traditional method of withdrawal

Such an outstanding achievement within the limited time period of 10 years since the inauguration of the program is surprising indeed. But, as indicated by the 1989 survey, the revived program was not starting from the scratch. In deed, even before the program had been officially inaugurated, almost fifty percent of eligible couples had in fact been using some form of contraception. The revived program would seem to have been particularly successful in meeting the needs of the traditionally neglected rural couples who were not in a position to make use of the private sector.

7.3 Modern versus Traditional Contraceptives

Some traditional methods of contraception, particularly coitus interruptus (withdrawal), have been known and practiced in Iran since time immemorial. The use of this method (*azl*) has been widely discussed (and mostly approved) by Muslim jurists and physicians (Omran, 1992; Mehryar, 2001). There are also anecdotal references to its use in classical Persian literature. From a story narrated by the famous Iranian Sufi poet Jalal-ud-Din Rumi, it would appear that Iranian women were sometimes instructed to ensure the effectiveness of the method by monitoring the eyes of their male partner and by withdrawing as soon as they started to change colour!

The method would seem to have survived the introduction of modern methods and to be still widely used. As indicated in Table 3, over one-fifth of urban couples, as compared with about 10% of the rural, reported using the traditional method of withdrawal in all four surveys conducted since 1992. The proportion of urban couples using withdrawal has decreased consistently between 1992-2000.

Table 3. Contraceptive Prevalence Rates by Modern/Traditional Distinction, 1992-1997

	1992		1994		1996		1997		2000	
Region	MM	TM	MM	TM	MM	TM	MM	TM	MM	TM
Urban	47.1	27.0	51.5	25.2	54.4	24.2	54.8	22.1	55.2	21.7
Rural	41.1	10.4	46.2	10.2	55.5	9.6	56.6	8.5	57.3	9.7
Total	44.6	20.0	49.2	18.9	54.9	18.0	55.4	16.9	55.9	17.4

NB. MM= Modern Methods; TM= Traditional Methods.
Source: For 1992-1997, SCI, 2000, Tables 1.9-1.11; For 2000, MOHME, 2001.

7.4 Specific Method Mix

Since its revival, the family planning program of Iran has tried to provide its clients with a wide range of modern methods. Tables 4 and 5 present the mix of contraceptives used by Iranian women according to surveys conducted since 1989. From this table it would appear that the revival of the FP program in 1989 has not only drastically raised the CPR but has also changed the contraceptive mix of users. The impact is particularly noteworthy in rural areas. Only three years after the revival of the program, the contraceptive use rate of rural women had risen from 31.0% to 54.8% and the overwhelming majority of them (41.1% of all women and 75% of contraceptive users) were using a modern method. In contrast, the contraceptive prevalence rate of urban women had only risen from 64.0 to 74.1% but a large fraction of them (27.0% of all women and 36.4% of those using any contraceptive) were relying on the traditional method of coitus interruptus. By 1995, the modern method use rate of rural women (52.4%) had surpassed that of urban women (51.7%), a superiority that is also revealed by later surveys.

The most commonly used modern methods reported by all women in the 2000 survey were Pill (18.4%), Tubectomy (17.1%), IUD (8.5%), Condom (5.9%), Injectable (2.8%), Vasectomy (2.7%), and Norplant (0.5%). The use of the traditional method of coitus interruptus was reported by 17.4% of all couples while another 0.5% reported using safe period and other methods.

The mix of modern methods would seem to be largely determined by the MOHME policy and shows some interesting variations over time and across urban-rural areas. Female sterilization which has been promoted as a major component of the program since 1992 would seem to have acquired a good deal of popularity, particularly among rural couples. In the DHS 2000 it was the second most frequently used modern

Table 4. Proportion of Married Women Aged 15-49 Using Different Methods according to Major National Surveys Taken Since 1989.

Year	**1989**		**1992**		**1994**		**1996**		**2000**	
Method	**Urban**	**Rural**	**Urban**	**Rural**	**Urban**	**Rural**	**Urban**	**Rural**	**Urban**	**Rural**
Pill	*19.0*	*17.0*	*20.1*	*26.1*	*19.2*	*25.9*	*19.0*	*25.8*	*16.5*	*21.9*
Condom	*8.0*	*3.0*	*8.0*	*4.2*	*8.1*	*4.7*	*6.6*	*4.3*	*7.2*	*3.6*
IUD	*6.0*	*1.0*	*10.0*	*3.1*	*10.7*	*3.9*	*11.0*	*4.7*	*10.2*	*5.3*
Tubectomy	-	-	*7.7*	*7.4*	*11.4*	*10.6*	*14.4*	*15.7*	*16.1*	*18.9*
Vasectomy	-	-	*1.3*	*0.3*	*1.7*	*0.5*	*2.2*	*0.8*	*3.5*	*1.3*
Injection	-	-	-	-	*0.4*	*0.6*	*1.2*	*4.2*	*1.3*	*5.5*
Norplant	-	-	-	-	-	-	-	-	*0.3*	*0.7*
All Modern	*33.0*	*21.0*	*47.1*	*41.1*	*51.5*	*46.2*	*54.4*	*55.5*	*55.2*	*57.2*
Traditional	*27.0*	*8.0*	*27.0*	*10.4*	*25.2*	*10.2*	*24.2*	*9.6*	*21.7*	*9.7*
Other	*4.0*	*2.0*	-	-	*1.1*	*2.9*	*2.1*	*5.0*	*0.5*	*0.3*
Total	*64.0*	*31.0*	*74.1*	*51.5*	*77.9*	*59.3*	*80.7*	*70.1*	*77.4*	*67.2*

Source: For 1992-1997, SCI, 2000, Tables 1.9-1.11; For 2000, MOHME, 2001.

method in both urban and rural areas. Male sterilization has not been as successful. It is more popular among urban men in general and in certain provinces. According to the DHS 2000 in the urban areas of six of the 29 provinces over 4% of women reported that their husbands had undergone vasectomy.

Table 5. Share of Different Contraceptives of Total contraceptive Users in Selected National Surveys Taken Since 1989.

Year	**1989**		**1992**		**1994**		**1996**		**2000**	
Method	**Urban**	**Rural**	**Urban**	**Rural**	**Urban**	**Rural**	**Urban**	**Rural**	**Urban**	**Rural**
Pill	*29.8*	*54.8*	*27.1*	*50.7*	*24.6*	*43.7*	*23.5*	*36.8*	*21.3*	*32.6*
Condom	*12.5*	*9.7*	*10.8*	*8.1*	*10.4*	*7.9*	*8.2*	*6.1*	*9.3*	*5.4*
IUD	*9.4*	*3.2*	*13.5*	*6.0*	*13.7*	*6.6*	*13.6*	*6.7*	*13.2*	*7.9*
Tubectomy	-	-	*10.4*	*14.4*	*14.6*	*17.9*	*17.8*	*22.4*	*20.8*	*28.1*
Vasectomy	-	-	*1.7*	*0.6*	*2.2*	*.8*	*2.7*	*1.1*	*4.5*	*1.9*
Injection	-	-	-	-	*0.5*	*1.0*	*1.5*	*6.0*	*1.7*	*8.2*
Norplant	-	-	-	-	-	-	-	-	*0.4*	*1.0*
All Modern	*51.6*	*67.7*	*63.6*	*79.8*	*66.1*	*77.9*	*67.4*	*79.2*	*71.3*	*85.1*
Traditional	*42.2*	*25.8*	*36.4*	*20.3*	*32.3*	*17.2*	*30.0*	*13.7*	*28.0*	*14.4*
Other	*6.2*	*6.4*	-	-	*1.4*	*4.9*	*2.6*	*7.1*	*0.6*	*0.4*
Total	*100.*	*100*	*100*	*100*	*100*	*100*	*100*	*100*	*100*	*100*

Source: For 1992-1997, SCI, 2000, Tables 1.9-1.11; For 2000, MOHME, 2001.

7.5 Provincial Variations in Contraceptive Prevalence

There are interesting provincial differences in terms of both overall contraceptive prevalence and its modern/traditional mix. The differences are observable in all surveys conducted since 1992. The data from the DHS 2000 are summarized in Table 6 from which it would appear that the overall CPR of the 29 provinces vary from 81.6% (in Tehran Metropolitan Area) to 41.5% in Sistan/Baluchistan province. In only two provinces (Sistan/Baluchistan, 41.5% and Hormozgan, 55%) the overall CPR is below 60% while in another four provinces it falls between 63 and 69.5%. The remaining 23 provinces all have CPRs above 70%.

Table 6. Provincial Variations in the Use of Modern, Traditional and Any Contraceptive Methods by Urban-Rural Residence (DHS 2000).

	All Country			Urban Areas			Rural Areas		
Province	Modern Methods.	Traditional Methods	All Methods	Modern Methods.	Traditional Methods	All Methods	Modern Methods.	Traditional Methods	All Methods
MARKAZY	57.6	19.5	77.1	55.2	24.1	79.3	60.9	13.2	74.1
GILAN	49.8	25.2	75.0	44.9	31.1	76.0	54.5	19.6	74.1
MAZANDARAN	53.0	25.7	78.6	49.3	30.9	80.2	56.4	20.8	77.2
AZERBAIJAN E.	58.2	14.5	72.7	54.7	19.8	74.6	64.4	5.0	69.4
AZERBAIJAN W.	62.2	10.9	73.3	61.1	15.6	76.6	63.7	4.9	68.7
KERMANSHAH	67.5	7.6	75.1	68.2	9.1	77.4	66.1	4.7	70.8
KHOUZISTAN	58.4	11.2	69.5	61.4	14.1	75.6	52.3	5.3	57.6
FARS	59.7	12.2	71.9	59.5	16.1	75.6	60.1	6.2	66.3
KERMAN	51.9	18.2	70.1	52.2	24.1	76.3	51.6	11.4	62.9
KHORASAN	50.2	18	68.1	49.5	23.4	72.9	51.1	10.6	61.8
ESFAHAN	56.1	23.4	79.4	54.5	26.1	80.5	60.9	15.1	76.0
SISTAN & B.	36.4	5	41.5	47.3	8.4	55.7	27.4	1.1	29.6
KURDISTAN	69.9	7.4	77.2	68.7	10.0	78.7	71.4	4.1	75.4
HAMADAN	63.8	13.4	77.1	61.3	18.3	79.5	66.4	8.1	74.5
CHARMAHAL	65.6	8.7	74.3	66.3	12.8	79.2	65.0	5.1	70.0
LORISTAN	63.9	8.6	72.5	63.2	12.4	75.6	64.7	3.6	68.3
ILAM	66.7	3.5	70.1	69.4	4.8	74.1	63.3	1.9	65.1
KOHGILOOYE	57.9	5.1	63.0	62.8	9.6	72.4	54.6	2.2	56.8
BOOSHEHR	50.8	12.9	63.7	51.8	17.3	69.2	49.5	7.3	56.8
ZANJAN	63.6	9.8	73.4	63.9	16.1	80.0	63.3	3.4	66.7
SEMNAN	53.4	26.8	80.2	50.8	31.7	82.6	59.2	15.7	74.9
YAZD	54.6	22.3	77.0	53.0	24.5	77.6	59.2	16.0	75.2
HORMOZGAN	44.8	10.2	55.0	53.2	16.5	69.7	38.5	5.3	43.8
TEHRAN PROV.	57.6	20.9	78.6	57.0	22.9	79.9	58.6	18.0	76.6
ARDEBIL	66.4	6.8	73.3	66.1	10.0	76.1	66.8	3.5	70.3
QOM	45.6	27.6	73.1	45.0	28.3	73.2	51.2	20.5	71.7
QAZVIN	57.9	18.3	76.1	55.8	22.8	78.6	60.8	11.6	72.5
GOLESTAN	57.9	14.4	72.3	54.3	23.5	77.7	60.7	7.3	68.0
TEHRAN CITY	52.6	29	81.6	52.6	29.0	81.6	0.0	0.0	0.0
TOTAL (WEIGHTED)	55.9	17.9	73.8	55.2	22.2	77.4	57.3	10.0	67.2

Source: MOHME, 2001.

Thus the Iranian program has succeeded in considerably narrowing regional variations in contraceptive use. This is an enormous feat in view of the wide variation of Iranian provinces in terms of ethnic background, cultural traditions, and development level.

The range of variation (from 82.6 in Semnan province to 55.7% in Sistan/Baluchistan) is even narrower in urban areas and only one province (Sistan/Baluchistan) has a CPR below 60% and in only two other provinces (Bushehr, 69.2% and Hormozgan, 69.7%) CPRs of urban couples fall below 70% while in four

other provinces (Mazandaran, Esfahan, Zanjan, Semnan and Tehran Metropolitan Area) they are above 80%. Even in rural areas, where the overall CPR ranges from 29.6 (in Sistan/Baluchistan) to 77.2 (in Mazandaran province), the majority of provinces fall above 60%. In fact in only two provinces (Sistan/Baluchistan, 29.6% and Hormozgan, 43.9%) the CPR falls below 50 and in three other provinces (Khuzistan, 57.6; Hohgiluyeh, 56.8%; and Booshehr, 56.8) it fails to reach 60%. In 15 of the 28 provinces the CPRs of rural women are above 70%.

Moreover, as indicated in Table 6, the majority (i.e., 55% or more) of Iranian couples rely on modern methods in both urban and rural areas of most provinces. Nevertheless, a sizeable number of couples continue to rely on traditional methods of contraception which in Iranian context mainly means coitus interruptus. The proportion of couples using coitus interruptus in the 2000 DHS varies from 31.3% (in Semnan province) to 3.9% (in Ilam province) in urban areas and from over 20.8% (in Mazandaran) to less than 1% (in Sistan/Baluchistan, 0.9%) in rural areas. In fact, in 13 of the 29 provinces, over 20% of urban women rely on this method. All of these are among the better developed provinces of the country. On the contrary, the six provinces where less than 10% of the urban women are using the traditional method of coitus interruptus (that is Ilam, Sistan-Baluchistan, Kohgiluyeh, Kermanshah, Ardabil and Kurdistan) are all known for their relative underdevelopment. Provincial variations in terms of modern or traditional method prevalence would seem to have remained more or less constant across surveys taken since 1996. This is indicated by correlation coefficients ranging from .78 to .84 between modern method use rates of various provinces between 1996-1997, 1996-2000 and 1997-2000. Corresponding correlation coefficients for traditional method use rates vary from .81 to .95. There is, however, a negative correlation of about -.35 between modern and traditional contraceptive use rates of the three surveys.

7.6 Relative Prevalence of Male and Female Methods

Like most other family planning programs in developing countries, the Iranian program has put more emphasis on reaching and meeting the needs of women than men. This is not unexpected in view of the fact that there are more modern methods for women than men, women are generally easier to reach, and they are more likely to suffer from the adverse effects of high fertility and unwanted pregnancies. This female bias has not, however, resulted in the total omission of men from the program (Table 7). Condom, the main modern method for men, was more or less easily available through both groceries, supermarkets and drugstores and public and private health facilities throughout the time when there was no official program. Vasectomy has been openly promoted and offered freely by the program since its revival. Thus it is not surprising that a sizeable proportion (one-third in 2000) of contracepting couples are

Table 7. Share (%) of Male Method Users of All Contraceptive Users in Iran, 1976- 2000.

Year	**Contraceptive**	**Urban Areas**	**Rural Areas**
1976 Survey	Condom	14.0	2.0
	Withdrawal	31.7	15.5
	Vasectomy	00.0	00.0
	Total	45.7	17.5
1989 Survey	Condom	12.0	8.3
	Withdrawal	42.0	25.0
	Vasectomy	00.0	00.0
	Total	54.0	33.3
1992 Survey	Condom	10.8	8.2
	Withdrawal	36.4	20.2
	Vasectomy	00.0	00.0
	Total	46.4	28.4
1996 Survey	Condom	12.0	6.4
	Withdrawal	24.2	9.5
	Vasectomy	4.3	1.8
	Total	40.5	17.7
1997 Survey	Condom	12.0	8.3
	Withdrawal	42.0	25.0
	Vasectomy	4.3	1.8
	Total	58.3	35.1
2000 Survey	Condom	9.3	5.3
	Withdrawal	27.8	13.9
	Vasectomy	4.4	1.8
	Total	41.5	21.0

(Source: SCI, 2000; MOHME, 2001; Mehryar,2001)

found to rely on male methods of contraception. There are of course urban-rural differences with regard to male method use and the proportion of women reporting these methods vary considerably across different provinces (Table 8). The use of male methods is more common in urban areas and the better-developed provinces of the country. On the whole, the overwhelming majority (67.5% in 2000) of male method users resort to coitus interruptus, condom being the second most commonly used method.

Table 8. Provincial Variations in the Use of Male and Female Methods of Contraception, by Place of Residence (DHS 2000).

	All Country			Urban Areas			Rural Areas		
Province	Male Methods	Female Methods	All Methods	Male Methods	Female Methods	All Methods	Male Methods	Female Methods	All Methods
MARKAZI	29.6	47.5	77.1	36.3	43.0	79.3	20.7	53.5	74.1
GILAN	30.9	44.3	75.0	37.8	38.2	76.0	24.2	49.8	74.1
MAZANDARAN	31.6	47.0	78.6	37.9	42.2	80.2	26.0	51.2	77.2
AZERBAIJAN E.	19.5	53.1	72.7	26.3	48.3	74.6	7.1	62.3	69.4
AZERBAIJAN W.	15.1	57.9	73.3	21.5	55.3	76.6	6.5	62.2	68.7
KERMANSHAH	13.1	61.9	75.1	16.2	61.1	77.4	7.1	63.6	70.8
KHOUZISTAN	17.9	51.8	69.5	22.8	52.8	75.6	7.9	49.6	57.6
FARS	22.0	49.9	71.9	28.3	47.3	75.6	12.4	53.9	66.3
KERMAN	27.6	42.6	70.1	35.0	41.4	76.3	18.8	44.2	62.9
KHORASAN	25.3	42.9	68.1	33.3	39.6	72.9	14.5	47.2	61.8
ESFAHAN	39.2	40.2	79.4	43.6	37.0	80.5	25.9	50.0	76.0
SISTAN & B.	7.3	34.3	41.5	12.9	42.8	55.7	2.5	26.0	29.6
KURDISTAN	12.7	64.4	77.2	17.7	61.1	78.7	6.6	59.8	75.4
HAMADAN	23.1	54.0	77.1	31.7	47.9	79.5	14.0	60.6	74.5
CHARMAHAL	15.8	58.6	74.3	23.7	55.5	79.2	8.8	61.3	70.0
LORISTAN	14.0	58.5	72.5	20.2	55.4	75.6	5.7	62.5	68.3
ILAM	5.9	64.3	70.1	8.5	65.7	74.1	2.7	62.6	65.1
KOHGILOOYE	9.1	54.0	63.0	15.4	57.0	72.4	4.8	52.0	56.8
BOOSHEHR	24.0	39.6	63.7	30.2	38.9	69.2	16.4	40.4	56.8
ZANJAN	16.1	57.4	73.4	26.3	53.6	80.0	5.5	61.2	66.7
SEMNAN	37.1	43.2	80.2	43.7	38.9	82.6	22.4	52.5	74.9
YAZD	38.1	38.8	77.0	41.3	36.3	77.6	29.2	46.2	75.2
HORMOZGAN	15.7	39.5	55.0	25.6	44.0	69.7	8.1	35.8	43.8
TEHRAN PROVINCE	27.8	50.7	78.6	29.6	50.2	79.9	25.0	51.6	76.6
ARDEBIL	10.4	62.7	73.3	15.5	60.6	76.1	5.0	65.3	70.3
QOM	39.2	33.9	73.1	40.2	33.0	73.2	29.0	42.7	71.7
QAZVIN	26.5	49.6	76.1	32.8	45.7	78.6	17.4	55.2	72.5
GOLESTAN	20.3	52.0	72.3	30.9	46.9	77.7	11.6	56.3	68.0
TEHRAN CITY	40.2	41.5	81.6	40.2	41.5	81.6	0.0	0.0	0.0
TOTAL (WEIGHTED)	26.0	47.8	73.8	32.4	44.9	77.4	14.6	52.6	67.2

Source: MOHME, 2001.

7.7 Public vs. Private Sources of Contraceptive Supply

In addition to the extensive public health and primary care services offered by the MOHME, the Islamic Republic of Iran has a well-developed private health sector. The private sector is particularly strong in urban areas and may be credited with shouldering most of the responsibility for maintaining family planning services in urban areas when there was no national FP program. According to MOHME surveys,

about 60 percent of contraceptive users obtain their supplies from PHC facilities, MCH clinics, and hospitals run by the MOHME. A quite similar picture is revealed by a survey taken in Shiraz City (1996) the findings of which are presented Table 9.

Table 9. Percentage of Women Using Different Contraceptives by Source of Supply and Socio-Demographic Characteristics, Shiraz City, 1996.

Source	Public Sector					Private Sector			
Indicators of Socio- Economic Status	***Hospital***	***MCH Center***	***Family Planning Center***	***Home Visitor***	***Mobile Health Team***	***Clinic***	***Pharmacy***	***Midwife***	***Other***
Level of Education									
Illiterate	24.8	2.0	51.5	0.0	0.0	8.9	31.7	4.0	3.0
Primary	20.7	1.6	57.0	0.0	0.0	4.9	27.2	6.2	4.9
Secondary, junior	12.7	1.2	52.9	1.2	0.0	7.4	33.2	5.3	3.7
Secondary, senior	9.1	1.2	45.0	0.0	0.3	8.2	37.6	12.9	6.2
Higher Education	9.4	0.0	34.4	1.6	0.0	7.8	42.2	15.6	6.3
Economic Activity									
Active	9.5	0.0	30.7	0.7	0.0	6.6	48.9	13.9	7.3
Inactive	16.0	1.5	53.5	0.3	0.1	7.0	30.7	7.6	4.6
Place of Birth									
No Answer	0.0	0.0	66.7	0.0	0.0	0.0	0.0	66.7	0.0
Urban	13.1	1.4	49.1	0.3	0.1	7.1	33.7	8.5	5.4
Rural	0.0	0.0	100.0	0.0	0.0	0.0	0.0	50.0	0.0
Total	15.2	1.3	50.7	0.4	0.1	7.0	32.9	8.4	4.9

Source: Agha et al, 1997, Table 22

According to the later Shiraz County (rural areas) survey (1997), however, the overwhelming majority of rural couples cite the *rural health houses*, which form the backbone of Iran's famous primary health care system, as their only and most trusted source of contraceptive supplies and services. These easily accessible, low cost, community based health houses have played a major role in the provision of family planning and other health services that have led to the narrowing of the urban-rural gap in contraceptive prevalence and other health indicators in the IRI. Because of their close and continuous contact with their clients, the health workers of the public

sector would seem to have been more effective in educating their clients as to the correct mode of using such contraceptives as the pill. Lower class urban dwellers can get similarly community based services from urban *health centres* while health posts staffed by women volunteers are mainly responsible for face-to-face health promotion and educational activities.

7.8 Non-Users

Despite the high rates of contraceptive prevalence noted above, over a quarter of eligible women are found not to be using any contraceptives. Who are these women and why they are not protecting themselves? According to the DHSI 2000, 26.2% of all eligible women (22.6% in urban areas as compared with 32.8% in the rural) were not using any contraceptive. Of this group of potentially at-risk women, however, the overwhelming majority did not need protection as they were already pregnant (5.2%), not fecund due to hysterectomy, menopause or not being sexually active (8%), suffering from primary (1.9%) or secondary infertility (2.2%), had just given birth to a child (0.7%), or were breast feeding a baby (1.2%). Just under four percent (3.8% of all women and 14.5% of those not using any contraceptive) were trying to get another baby and another 2.7% (10.3% of those not using any contraceptive) have given other reasons for their non-use. Only 0.4% of all women questioned (0.6% in rural areas as compared with 0.3% in the urban) have cited "opposition by husband or other members of the family" as an excuse for not using any method.

Thus, about three quarters (73.7%), of couples not using any method (74.8% in urban areas and 72.3% in the rural) do not seem to be at risk of an *unwanted* pregnancy. If one adds the number of those who are not using contraceptives because of a personal plan to get pregnant, 87.8% of the women not currently using any method (89.4% in urban areas and 86.9% in the rural) by definition are not at risk of an *unwanted* pregnancy. This leaves only a tiny fraction (3.1% of all women interviewed and 11.8 of those not using any contraceptive) that may be considered as truly at risk of unintended pregnancy. The figure however rises to alarmingly high levels in rural areas of some provinces (e.g., 25.1% in Hormozgan; 21.6% in Sistan/Baluchistan; 15.1% in Khuzistan province).

7.9 Unwanted Pregnancies

Of all births that had taken place between September 1999-October 2000 (N=9,311) 17.2 were described as "definitely unwanted", 68.5% as "definitely wanted" and another 13.6% as "Unplanned, but wanted at a later date" by the wife. The proportion of pregnancies described as "definitely unwanted" by rural women (18.2%) is significantly higher than that of urban women (16.7%). While the proportion of pregnancies designated as "definitely unwanted by father" (15.3%) is smaller than the

figure for mothers (17.2%), a higher proportion of pregnancies are described as *unwanted by father* in rural areas (16.0%) than the urban (14.9%). Judging by these numbers, over two-thirds of all births reported for the one-year period preceding the survey (69.7 of those that had taken place in urban areas and 66.5% of those experienced by rural women) were designated as *wanted by the mother*. Another 13.6% (12.9% in urban areas and 14.8% in the rural) were identified as *mistimed* but not unwanted. Corresponding figures of *wanted* pregnancies for fathers (as reported by the wife) is somewhat higher (73.1%).

Thus one can conclude that less than 17% of births reported for the one-year period under study were *unwanted by mothers* and just over 15.0% of them by the father. Given the fact that only about 5% of married women aged 15-49 covered by this survey had given birth to a child during the one-year period under discussion, one can conclude that about one percent of all pregnancies leading to a live birth are unwanted. Of course it is likely that some unwanted pregnancies are terminated and some others are later described as wanted and are not included in this estimate. In any case, the number does not seem to be high by any standard.

The proportion of pregnancies designated as "definitely unwanted by mother" varies considerably across different provinces. In urban areas it ranges from 24.4% (in Kerman) to 7.3% in Gilan, being higher than 20% in 11 of the 29 provinces. In rural areas, it varies from 27.8% (in Ilam) to 9.9% (in Sistan & Baluchistan) being above 20% in 11 of the 28 provinces.

Quite similar results are obtained for the one-year period between September 1998-October 1999. Of all births that had taken place during this period (N=8680) 19.1 were described as "definitely unwanted" and 66.6% as "definitely wanted" and another 13.7% as "*unplanned, but wanted at a later date*" by wife. The proportion of pregnancies described as "*definitely unwanted*" by rural women (22.0%) is significantly higher than that of urban women (17.5%). While the proportion of pregnancies designated as "*definitely unwanted by father*" (17.5%) is smaller than the figure for mothers (19.1%), a significantly higher proportion of pregnancies are described as unwanted by father in rural areas (19.8%) than the urban (16.3%). Judging by these numbers, about two-thirds of all births reported for the one-year period 1998-1999 (67.6 of those in urban areas and 64.7% of those experienced by rural women) were intended and desired by the mother. Another 13.7% (14.3% in urban areas and 12.7% in the rural) were *mistimed* but not unwanted. Corresponding figures of intended pregnancy for fathers (as reported by the wife) is somewhat higher. Thus one can conclude that less than one fifth of births reported were unwanted by mothers and 17.5% by fathers. Given the fact that only about 5% of married women aged 15-49 covered by this survey had given birth to a child during

the one-year period under discussion, one can conclude that about one percent of all pregnancies leading to a live birth are unplanned.

The proportion of pregnancies designated as "*definitely unwanted by mother*" for this period also varies considerably across different provinces. In urban areas it ranges from 27.5% (in Hamadan) to 11.5% in Tehran Metropolitan Area, being higher than 20% in 14 of the 29 provinces. In rural areas, it varies from 32.6% (in Ilam) to 12.5% (in Sistan & Baluchistan) being above 20% in 19 of the 28 provinces.

8.0 Fertility Decline Since 1986 and the Role of the Family Planning Program

As indicated above, the main impetus for the revival of the FP program in Iran was the extraordinarily high level of fertility and population growth revealed by the 1986 census. The FFYDP which provided the program with its initial legal coverage and resources had in fact set a number of short-term demographic objectives for the program.

These included the reduction of total fertility from 6.4 in 1986 to 4.0 by the year 2006 and the decrease of the natural rate of growth of the population from 3.9% to 3.2% by the end of the Plan (1993) and to 2.3% by the year 2006. To reach these goals, the coverage of family planning services was to be extended to 24% of the potentially fertile women by the end of the FFYPD (1993). As, indicated above the program had attained more than three times the targeted contraceptive coverage set for it by the FFYPD in less than 8 years after its revival. What about the demographic target? Has there been a similarly impressive change in the fertility of the population? And if so, what role did the revived family planning program play in reducing fertility?

There is in fact substantial evidence that the fertility of Iranian couples has fallen drastically since late 1980s. The evidence has been reviewed in detail elsewhere (Aghajanian & Mehryar, 1999b; Abbasi-Shavazi, Mehryar, Jones and MacDonald, 2001; Mehryar et al, 2001). In this section we will briefly review the available evidence with particular emphasis on the results of the DHSI 2000.

8.1 Initial Evidence of Marked Fertility Decline in Late 1980s

Some decline in the fertility of Iranian couples had in fact been revealed by the 12-round panel survey on the socio-economic conditions of Iranian households conducted by the SCI between 1987 and 1989 (SCI, 1992; Mehryar & Gholipour, 1995b). This trend was supported by the findings of the combined census/survey

carried out in 1991 which indicated an annual growth rate of 2.5 percent for the period 1986-1991, a 64 percent decline in comparison with the growth rate of 3.9 percent revealed by the 1986 census. Further analysis of the 1991 data indicated that the total fertility rate of Iranian women had declined from 7.1 to 4.9 during the preceding 5 years (SCI, 1998, Table 10.1.). Judging by this evidence, the revived family planning program had in fact reached all of the demographic targets set for it in the FFYDP before the Plan had gotten off the ground!

Because of the unexpectedly sharp decline in the population growth rate indicated by the 1991census/survey and certain anomalies in the age structure of the population enumerated, these results were viewed with more than their fair share of skepticism by both demographers and policy makers. However, large-scale annual population surveys conducted by Statistical Center of Iran (SCI) in 1992 and 1993 confirmed a continuation of the downward trend revealed by the 1991 census/survey. These were supported by smaller scale, but nationally representative, surveys undertaken by the MOHME as well as a new set of panel surveys on the socio-economic conditions of Iranian households conducted by the SCI (1992-1995). There was also growing evidence of a sharp decrease in the number of births registered by the CRO.

8.2 1996 Census and Convincing Evidence of Precipitous Fertility Decline Since 1991

This evidence was squarely confirmed by the 1996 census which indicated a more precipitous decline in fertility during the five-year period since the 1991 census/survey. Comparing the population enumerated in 1996 (just over 60 million) with that counted
in 1986 and 1991, it is found that the total population of Iran had grown at a rate of 2.46% between 1986-1996 and at a rate of only 1.47% between 1991-1996. In the absence of any evidence of massive out-migration or a rise in mortality rates between 1986-1991 or 1991-1996, it is obvious that the observed drop in population growth rate was mainly due to a sharp drop in fertility. This inference is clearly supported by the marked decline in the number of children aged 0-4 in 1996 census (6,163,024) as compared with the size of the same age group enumerated in 1991 (8,141,285) and 1986 (9,044,823). A comparison of these figures indicates a 24% and 32% drop in the number of children born during the 5 and 10 year periods preceding the 1996 census.

Table 10. Official Fertility Estimates for Iran, 1976-1996 compared with More Recent Data Collected in 1998 and 2000 .

Date	*Area*	*Crude Birth Rate*	*General Fertility Rate*	*Total Fertility Rate*	*Gross Reproduction Rate*
1973-6*	Total	42.90	200.00	6.60	na
	Urban	31.80	140.00	4.50	na
	Rural	50.10	242.00	8.10	na
1986	Total	49.60	204.00	7.10	na
	Urban	38.00	169.00	5.90	na
	Rural	51.20	257.00	9.00	na
1991	Total	30.60	140.00	4.90	2.40
	Urban	27.90	121.70	4.30	2.10
	Rural	34.10	166.90	5.80	2.90
1996	Total	20.50	84.00	2.96	1.44
	Urban	18.70	74.00	2.60	1.27
	Rural	23.40	117.00	4.10	2.00
1998	Total	16.3	63.32	2.05	na
	Urban	15.6	57.94	1.88	na
	Rural	17.6	72.64	2.38	na
2000	Total	16.3	61.0	2.00	na
	Urban	15.2	54.7	1.79	na
	Rural	18.4	72.6	2.39	na

Source: Data for 1986-1996, Statistical Center of Iran, 1998 (Table 10-2); Data for 1998, SCI, 1999; Data for 2000, MOHME, 2001.

Table 11. Unadjusted Age Specific Fertility Rates of Iranian Women by Place of Residence, 1976-2000 .

Date	*Area*	*Age Groups*						
		15-19	*20-24*	*25-29*	*30-34*	*35-39*	*40-44*	*45-49*
	Total	130	302	322	287	224	126	39
1986	*Urban*	121	264	270	234	173	93	26
	Rural	141	359	404	365	298	173	54
	Total	47	213	278	219	146	64	14
1991	*Urban*	32	168	258	213	125	54	11
	Rural	150	310	276	217	140	52	15
	Total	54	135	132	104	89	56	21
1996	*Urban*	47	124	113	92	78	48	18
	Rural	65	155	182	156	133	94	34
	Total	27.3	105.2	123.7	85.9	46.4	16.9	5.4
1998	*Urban*	23.1	100.3	117.8	79.2	39.9	11.9	3.3
	Rural	33.7	112.8	133.9	99.0	60.1	26.7	9.3
	Total	26.8	98.7	122.5	88.2	45.0	14.8	3.2
2000	*Urban*	23.9	89.8	112.8	83.0	37.2	10.4	1.4
	Rural	32.1	114.7	139.9	97.7	59.2	22.7	6.3

Source: Data for 1986-1996, Statistical Center of Iran, 1998 (Table 10-2); Data for 1998, SCI, 1999; Data for 2000, MOHME, 2001.

The fertility indices officially calculated on the basis of the 1996 census and earlier censuses are summarized in Table 10. Comparing fertility estimates derived from the 1996 census with those obtained from the 1986 census and the 1991 census/survey, clearly reveals the magnitude of fertility decline that has taken place during the ten-year period since 1986. The TFR (2.96) for 1996 is only 42 percent and 60 percent, respectively, of those for 1986 (7.1) and 1991 (4.9). In other words, by 1996, the fertility rate of the total population of Iran had dropped by over 58 percent since 1986 and by 40 percent since 1991. It may be interesting to note that the TFR obtained from the 1996 census is only slightly higher than the TFR (2.6) revealed by the KAP survey conducted by the MOHME in the same year.

Further analyses of the 1996 census results reveal several interesting points which support the validity of the data. First, comparison of the age-specific fertility pattern for 1996 (taken from the post-enumeration survey done on a one per cent sample of the enumerated population) indicates a remarkable fall in the fertility of all age groups (See Table 11). Secondly, the fertility decline is observable in both urban and rural areas of all 28 provinces and 254 sub-provincial districts (Mehryar et al, 2001).

8.3More Recent Data on Fertility Decline

The past five years have seen the implementation of three major sample surveys directly dealing with fertility rates in Iran. The first two of these were carried out as part of a longitudinal *population growth estimation project* undertaken by the Statistical Centre of Iran. The project envisaged three rounds of data collection over a five-year period. The first and second rounds, which cover large samples of over 110,000 households each, were completed in October 1998 and May 1999. The results suggest that the process of sharp fertility decline revealed by the 1996 census has continued. Total fertility rates provided by these surveys indicate that the overall (2.05) and urban (1.88) fertility rates of Iranian population have in fact dropped to below replacement levels (see Tables 10-11).

The second source of recent data on Iranian fertility levels is the large-scale DHS survey carried out by the MOHME in October/November, 2000. The results of this survey squarely confirm the continuing decline in the fertility rate of Iranian couples indicated by the SCI surveys reviewed above (Tables 10-11). Total fertility rates derived from the DHS 2000 for both urban (1.79) and rural areas (2.39) are slightly lower than those of the SCI survey for 1998/1999 (1.89 and 2.46).

Compared with similar estimates derived from the 1996 census, all recent studies suggest a drastic decline in the fertility of Iranian couples over the past five years. With respect to the DHS survey, the decline is observable in both urban and rural areas and across all provinces. The TFR for the country as a whole (2.00) is only 67.6% of its 1996 equivalent (2.96). Corresponding figures for urban (1.79) and rural (2.39) areas are 68.8% and 57.6% of their 1996 equivalents, respectively. Thus, the 5-year period since the 1996 census would seem to have been associated with a 32% drop in the fertility of Iranian women as a whole but a larger (42%) drop in that of rural women.

More interesting, the fertility decline is noticeable in both rural and urban areas of all provinces. In urban areas, only Sistan/Baluchistan province (TFR= 3.54) has a TFR exceeding 3.0 whereas in 1996 ten of the 28 provinces had TFR values above 3.0 for their urban population. The TFR for the urban population of Sistan/Baluchistan province in 1996 was 5.20. According to DHSI 2000, aside from Sistan-Baluchistan, ten provinces have a TFR exceeding 2.0. But these only range from 2.03 (in

Hormozgan) to 2.70 (Qum). If we take a TFR of 2.10 as indicative of a Net Replacement Rate of 1.0, the findings would seem to suggest that in 21 of the 29 urban sites covered by the DHS 2000 fertility has fallen to below replacement level. The replacement level reached by such underdeveloped provinces as Ilam, Kurdistan, Chaharmahal, Ardabil, and Golestan are particularly worth attention. The lowest TFR values belong to Tehran Metropolitan Area (1.32), closely followed by the urban areas of Gilan (1.39), Hamadan (1.44), Fars (1.53), Kermanshah (1.1.58), Mazandaran (1.61), Ilam (1.63), Esfahan (1.64) and Tehran (1.68) provinces.

In the case of the rural population only one province has a TFR falling above 4.0 (Sistan/Baluchistan, 4.6) and only two other provinces have TFR values exceeding 3.0 (Khuzistan, 3.2 and Hormozgan, 3.3). In eight of the 28 provinces (Gilan, 1.47; Markazi, 1.55; Ghazvin, 1.80; Isfahan, 1.81; Kurdistan, 1.81; Mazandaran, 1.84; Fars, 1.93; and Yazd, 1.85) the TFR of rural couples is clearly below replacement level while in five other provinces (Qum, 2.01; Semnan, 2.04; Lorestan, 2.12; Ilam, 2.12; Zanjan, 2.21; and Ardabil, 2.23) it is only slightly above that level. The very low TFR values revealed by such underdeveloped, tribal, and previously high fertility provinces as Kurdistan, Ilam, Lorestan, Ardabil, and Zanjan are particularly impressive. On the other hand, it is worth noting that in five provinces the TFR of the rural population has actually fallen below that of the urban population. These provinces and their urban versus rural TFRs are as follows: Markazi, 1.55 vs. 1.80; Kurdistan, 1.81 vs. 1.89; Semnan, 2.04 vs. 2.12; Yazd, 1.85 vs. 2.35; and Qum, 2.01 vs. 2.70.

Weighted TFR values for the total population also suggests a noticeable drop in fertility levels in all provinces. In 13 provinces plus Tehran Metropolitan Area TFR is clearly below replacement level, while in another five provinces it is just above 2.0.It may be of interest to note that according to the 1997-8 and 1998-9 surveys conducted by the SCI too the TFRs for the total (2.05 and 2.09) and urban population (1.88 and 1.89) are clearly indicative of below replacement of fertility levels.

Comparing the age specific and total fertility rates derived from the DHS survey with those of the earlier three censuses reveals some interesting trends (Tables 10 and 11). From a comparison of DHS results with those of the 1996 census (Table 11), it would appear that while there is a considerable decline in the fertility rates of all age groups, those of the youngest (15-19 years) and oldest (35-49) age groups have experienced a particularly sharp decline. The fertility rates of groups aged 15-19 and 35-39 have also fallen by 50% or more in both urban and rural areas. Those of age groups 40-49 have declined by even larger proportions. It is also of interest to note that rural couples have experienced a larger fertility decline than their urban counterparts in age groups 15-19 and 25-34. Comparing the results of the DHS with age-specific fertility estimates for 1986, an extremely sharp drop is noticeable in both urban and rural areas and across all age groups.

8.4 Share of Family Planning Program in the Observed Fertility Decline in Iran

Thus, there is a tremendous amount of data supporting the spectacular fertility decline in Iran since 1986. Using Own-Children Method, Abbassi-Shavazi (2000) and SCI (2001) have provided strong evidence that the process of fertility decline had in fact started in mid-1980s. But there is little doubt that the bulk of the observed decline in fertility has taken place during the second half of the decade, that is after 1989. More recent data presented above indicate that the process of fertility decline that had begun in late 1980s became more precipitous in early 1990s and has continued at a high tempo into late 1990s. The period coincides with the revival of the family planning program and it is highly tempting to attribute the observed decline in fertility to the reintroduction of the program. Yet it is rather difficult to credit a fledgling program with the enormous decline in fertility level that has taken place all over the country within a short period of seven years.

This period was also marked by significant social changes including a rise in urbanization and literacy rates –particularly of women. As a result of these changes, the average age at first marriage of both men and women has gone up by more than two years. Interestingly, the latter has happened despite deliberate government policy to remove legal barriers to early marriage and to promote early and universal marriage as basic Islamic values. All these changes have no doubt contributed to the process of fertility decline. Nevertheless, the fact remains that the overwhelming bulk of sexual activity and child bearing in contemporary Iranian society takes place within marital unions. Moreover, careful analyses of data by Aghajanian & Mehryar (1999a) and Abbassi-Shavazi (2000) indicate that over 80 percent of the observed decline in fertility is due to a decrease in marital fertility and only 15-20 percent can be attributed to changes in nuptiality, that is, changes in age and prevalence of marriage. Abbassi-Shavazi's (2000) analysis has revealed that the relative contribution of the two main sources (that is, exposure to pregnancy vs. exposure to marriage) to fertility decline between 1986-1996 apply across all age groups and urban and rural areas.

From these findings, it is clear that the drastic decline in fertility observed between 1986-1996 and later has been mainly due to decisions taken by married couples who have intentionally controlled their fertility outcomes. The revived family planning program has contributed to this process in two important ways. First, by declaring birth control as permitted by religious authorities and socially desirable to the leadership of the country, it has reinforced the motivation of couples to limit their fertility. Secondly, by making means of birth control free and easily available, it has empowered the motivated couples to enact their desire for a smaller family through spacing their pregnancies or stopping it altogether. Both of these could have been

particularly important for the poorer, less educated, often ignored and traditionally disadvantaged segments of the population living in rural areas. Such couples were also much more likely to be hampered by religious, political and economic constraints as well as lack of information and access to reliable methods of contraception. The striking success of the revived program in reaching rural couples and raising their level of contraceptive use clearly supports this hypothesis. The fact that family planning supplies and services were offered as part of the primary health care package and addressed other reproductive health needs and concerns of the rural population was bound to play a major role in making it more acceptable.

9. Discussion and Conclusions

From evidence presented above it should be clear that the family planning program of Iran has gone a long way in its relatively short life. Both in terms of the proportion of the married couples using an effective contraceptive and the mix of contraceptives used, the Iranian program would seem to present a singular example not only among the Muslim nations of the Middle East but also in the whole developing world. A comparison of Iranian achievements with those of Muslim and non-Muslim developing and developed countries with a much longer history of official commitment to family planning neatly supports this contention. Comparing the data for Iran with those of other countries, it would appear that just three years after the revival of the family planning program, in 1992, Iran's total contraceptive prevalence rate (65%) had surpassed those of Egypt, Bangladesh, Indonesia, Philippines, Sri Lanka, Turkey, Vietnam, Mexico, Japan and Romania. By 1997, Iran's total CPR was lower only than those of such well-developed countries as Hong Kong, Korea, United States, and France. Moreover, unlike many developing countries, including the pre-Revolutionary Iran, the Iranian program has not been limited to urban areas. In fact by 1997, a slightly higher proportion of rural 55.5%) than urban women (54.4%) were using modern contraceptives promoted by the program. Similarly, despite regional variations which are easily explainable in terms of developmental and cultural peculiarities, all 28 provinces of Iran demonstrate contraceptive prevalence rates that exceed the national averages of most developing countries. Iran's program also stands out clearly for its success in promoting such effective but controversial methods as tubectomy and vasectomy which have been shunned by most family planning programs, particularly in Islamic countries. The marked rise in the proportion of couples protected by sterilization between 1992 (8.5%) and 1997 (17.2%) is worth particular attention. So is also the relatively higher rate of female sterilization in rural areas as compared with the lower acceptance of vasectomy by rural men.

The period since the revival of the program has also witnessed a remarkable decline in the fertility rates of Iranian couples. The decline was obvious in the results of the

1996 census. Findings of three large-scale surveys conducted in 1998-1999 and 2000 confirm that the decline has not stopped since then. There is in fact convincing evidence that the urban population of Iran has reached a below replacement fertility level. Similarly low levels are also reached by the rural population of several provinces.

These are uniquely remarkable achievements given the short life, rather limited resources, and the historical background of Iranian family planning program. The success of the program would stand out more clearly if one takes notice of the fact that the IRI program is singular in terms of being almost exclusively based on local national resources. Due to her continuing conflicts with the USA, the IRI has been almost totally excluded from any multi-bilateral assistance programs funded by developed countries. Some valuable assistance has of course been rendered by the United Nations specialized agencies. But the total contribution of such international agencies as WHO, UNFPA, and UNICEF to Iran's health program in general is estimated to be less than one percent of Iran's annual expenditure on health.

From the evidence reviewed above it should be clear that both the rise in contraceptive prevalence and decline in fertility rates had several years before the official revival of the national family planning program. The most important contribution of the official family planning program was that it removed both physical and ideological barriers to contraceptive practice faced by the more deprived segments of the population, that is the rural couples and the lower class urban dwellers most of whom were likely to be recent migrants from rural areas. On the one hand, the adoption of family limitation as official state policy by the IRI along with the open endorsement and promotion of contraception and family planning by the politically influential religious leaders of the country helped remove any doubts regarding the potential conflict between Islam and birth control. In this respect it may be interesting to note that the lowest rates of contraceptive use in Iran used to belong to the few provinces with a large proportion of Sunni Muslims who are not bound by the *fatwas* of the predominantly Shiite leaders now ruling the IRI. Nevertheless, it is heartening to note that the DSH 2000 shows a marked improvement in the CPR of several of these provinces (Kurdistan, Golestan, and W. Azarbayjan) and a remarkable decline in the total fertility rate of all of them, including Sistan & Baluchistan. The latter which borders on Pakistan and is very similar to that country in terms of both culture and level of development. Yet the latest CPR for Sistan and Baluchistan (41.5%) is over twice that of Pakistan (18%). Similarly, the most recent TFR figure for Ssistan & Baluchistan (4.15) is much lower than the figure for Pakistan (5.6).

At the same time, the adoption of a national family planning policy allowed the largely technocratic government (particularly the professionally committed technical staff of the MOHME and the PBO) to allocate further resources to family planning. Because of the total integration of family planning with other aspects of primary health care it is however impossible to identify the exact share of reproductive health services of the government investment in health. There is no doubt, however, that it forms a large proportion of the public resources allocated to primary health care. At the same time, public statements by religious leaders in support of sterilization and its active promotion by the program went a long way to ensure the social acceptability and increasing use of this method.

It may be worth noting that the close integration of family planning and other reproductive health services with the primary health care and provision of contraceptive services and supplies in close conjunction with nutrition, immunization, infant and child care, prenatal and postnatal care of mothers, and environmental hygiene have contributed enormously to the acceptability and effectiveness of the program. In fact, the existence of an active, multifunctional primary health care system with extensive coverage of the rural population plus a well developed public and private health care system in urban areas provided the main instruments through which the family planning program was able to reach its target groups. The impressive rise of contraceptive use among the rural couples along with evidence of marked decline in their fertility is probably the most important and unprecedented achievement of the revived family planning program.

The family planning program has not operated in social isolation and many other factors besides government support and availability of supplies and services have no doubt played a major role in the relatively rapid success of the program. Among the demand factors, the most important was the marked rise in the literacy and educational attainment of the population in general and women in particular. The indirect effect of women's education on changing their age at marriage, expectations about quality of life in general and marital life in particular, and cost and benefit of bearing and rearing children was probably even more important than its direct impact in terms of facilitating exposure to new sources of ideas and information on contraceptive methods and practices. Existing family planning methods demand active participation of couples, particularly women. In Iran, as in many other countries, the main burden of birth control, as well as the adverse consequences of not using contraceptives or using them incorrectly, fall on the shoulders of women. Only through careful negotiation with their male partners can women persuade them to take more responsibility for family planning. There is good grounds to believe that better educated women are in a much better position to negotiate for the participation of their partners in consistent and effective use of available contraceptives.

The evidence presented above also leaves little doubt regarding the drastic fall in the fertility rate of Iranian population since 1989. The decline would seem to have started

in mid 1980s but has been definitely more precipitous since 1990 which coincides with the revival of the family planning program. Theoretically, any decline in fertility rates can be considered as the result of a decrease in the risk of exposure to sexual intercourse and pregnancy. In societies like Iran where the overwhelming majority of pregnancies take place among formally married women, a decline in fertility may also result from a drop in the rate of marriage. There has in fact been a drastic fall in the mean age at first marriage of Iranian women. But, in view of the fact that over 90 percent of Iranian women are married by age 30, a decline in nuptiality rate alone is unlikely to have exerted a substantial impact on fertility level. A decomposition of changes in the total fertility rates of urban and rural women between 1986 and 1996 indicates that about 80 percent of the observed decline could be attributed to a decrease in the exposure to the risk of pregnancy through contraceptive practice (Aghajanian, 1998; Abbassi-Shavazi, 2000).

This leaves little doubt regarding the fact that the bulk of the observed fall in the fertility of Iranian couples during the past decade was due to wide spread and consistent contraceptive use. But what was the role of the national family planning program in this connection? In other words, would the same decline in fertility level have occurred if the government of Iran had not revived the family planning program in 1989? This is not an easy question to answer. From the evidence reviewed above, there is no doubt that a large proportion of women were planning their fertility long before the family planning program had been officially revived or there were any official statements in favor of birth limitation. There is also little doubt that the baby boom period following the Revolution was relatively short (1978 to 1984 or 1985) and there was clear evidence of a decline in the birth rate of Iranian couples several years before the official reintroduction of the family planning program (Mehryar & Gholipour, 1995; Mehryar & Tabibian, 1997). Such a decline is not unexpected in view of the remarkable rise in the literacy and educational attainment of the population in general and women in particular as well as the rapid urbanization, modernization and even Westernization that have marked this period of Iran's history.

Yet, judging by the available evidence, it is fair to say that the amount of fertility decline noticed before 1989 was very small in comparison with what happened after the adoption of a national birth control policy in 1989. Moreover, the decline experienced before 1989 was largely limited to urban areas where there was an active private health care system. It is, moreover, important to note that even in the urban areas, private health providers were able to continue their services because the government of the IRI not only did not interfere with the provision of family planning services but in fact tacitly encouraged it through the regular importation and distribution of contraceptive devices at generously subsidized prices. Thanks to this policy of covert support, in mid 1980s while most imported consumer goods were in short supply, the urban population of Iran was able to buy condoms from street corner supermarkets as well as drug stores at relatively low prices. They could also get

condoms and other contraceptives from the family health clinics run by the MOHME at even cheaper prices if not completely free. At the same time, a good proportion of better educated urban couples protected themselves by using traditional methods which did not depend on government support. That large proportion of them still do so attests to the value of such traditional methods in fertility regulation.

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